

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent )  
application of: )  
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Günther Fux et al. )  
 )  
In Continuation of International )  
Application No. PCT/EP00/07554 )  
 )  
Filed August 3, 2000 )  
 )  
NOZZLE ARRANGEMENT, NOZZLE )  
CARRIER AND DEVICE FOR )  
EXTRUDING DOUGHY SUBSTANCES ) February 1, 2002

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

As a Preliminary Amendment to the above-referenced Application, please enter the following amendments prior to computing the filing fees therefore.

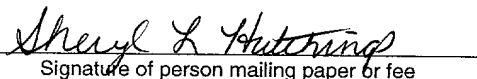
**IN THE CLAIMS :**

**Please cancel claims 1-9 that are presented in the Annexes to the Preliminary Examination Report and insert in lieu thereof the following claims 10-18:**

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We claim :

10. Nozzle carrier having a nozzle arrangement for extruding doughy substances, comprising

- an axis of rotation (26),

- an inner nozzle (14), which is disposed coaxially with said axis of rotation (26) and

has a mouth (16) for extruding an inner substance (56), and

- two outer nozzles (18, 19), which are disposed axially offset relative to said inner nozzle (14) and are rotatable about said axis of rotation (26) and each have a mouth (20; 21)

for extruding an outer substance (58, 59), wherein

- the nozzle carrier (10) comprises two parts, which are rotatable relative to one another, namely

- a stator, in which an inner feed channel (22) as well as a first (24) and a second outer feed channel (25) are formed, and

- a rotor, which carries the nozzles (14, 18, 19), is first rotatably supported in said stator and contains a first connection channel (62), which connects said inner feed channel (22) to said inner nozzle (14), characterized in that

- in at least one of the said parts, which are rotatable relative to one another, a first annular space (28) and in the rotor a second connection channel (63) are formed, which connect the first outer feed channel (24) to the first outer nozzle (18), and a second annular space (29) is formed, which connects the second outer feed channel (25) to the second outer nozzle (19).

11. Nozzle carrier according to claim 10, characterized in that the rotor is sealed off relative to the stator by means of a first (54), second (55) and third seal (56), wherein the first

seal (54) seals off the first feed channel (22), the first (54) and second seal (55) seal off the first annular space (28), and the second (55) and third seal (56) seal off the second annular space (29).

12. Nozzle carrier according to claim 10, characterized in that the annular space (28, 29) in longitudinal section is in sections circular or elliptical in shape.

13. Nozzle carrier according to claim 10, characterized in that the first annular space (28) is formed in an, in flow direction of the substance, top region by the stator and a first insert (66) of the rotor, and in a bottom region by a second insert (67) of the rotor.

14. Nozzle carrier according to claim 13, characterized in that the second annular space (29) is formed in its radially outer region by an annular insert (68) disposed in the stator and in its radially inner region by the second insert (67) of the rotor.

15. Nozzle carrier according to claim 13, characterized in that the first (62) and second connection channel (63) are formed by the first (66) and second insert (67) of the rotor.

16. Device for extruding doughy substances characterized in that at least one nozzle carrier according to one of claims 1 to 6 is provided and the rotor is drivable by means of a traction mechanism gearing, in particular a toothed belt drive (36, 38), or a toothed gearing (36, 72, 74) with intersecting axes (26, 70).

17. Device according to claim 16, characterized in that a plurality of nozzle carriers (10) are disposed side by side and drivable by means of a single traction means gearing, in particular a toothed belt drive (36, 38), or a single toothed gearing (36, 72, 74) with intersecting axes (26, 70).

18. Device according to claim 16, characterized in that each nozzle carrier (10) is disposed so as to be inclined at an angle  $\alpha$  of around 25° to the vertical.

Respectfully submitted,

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